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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,524	03/08/2004	Chia-Shang Chen	14281 B	1966

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EXAMINER	
MURALIDAR, RICHARD V	
ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,524	CHEN, CHIA-SHANG	
	Examiner	Art Unit	
	Richard V. Muralidar	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03/08/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The title of the invention [*Charger*] is insufficiently descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: "AC and DC Input Powered Portable Battery Charger with Internal Battery." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin [US 2002/0154527], or in the alternative, under 35 U.S.C. 103(a) as obvious over Lin in view of Tortola et al [US 5160879].

With respect to Claim 1, Lin teaches a charger [par. 0002 mobile AC/DC charger] comprising: a main body [Fig. 1 enclosure 1] and a cell chamber disposed in the main body [see below], the main body having a charging electric circuit [Fig. 2 regulation circuit 21] connected to an alternating current power source terminal [Fig. 3 terminal board 211 supplying AC], a direct current power source terminal [Fig. 1 cigarette

adapter plug 222 for connection to a vehicle's battery], and a cell power source terminal [Fig. 3 terminal 223 for connection to the 9 volt battery. Note that in Fig. 1, both the 9-volt battery and the cigarette adapter plug are connected to charging input connector 223].

Lin teaches a 9-volt battery 221 shown in Fig. 1, that must partially be inserted beyond the outer perimeter of enclosure 1 in Fig. 1 to make contact with the electrical terminals 223 on internal circuit PCB 2, that duplicates the applicant's intended purpose exactly. If the battery 221 were not inserted at least some distance into enclosure 1, it would likely fall off of terminal 223 once attached. Therefore this inner insertion space is considered the cell chamber. Also, considering that 9-volt batteries are typically used on the inside of devices to provide power, it is well within the scope of Lin's invention to completely relocate the 9-volt battery 221 to the inside of the charger enclosure 1 for the purposes of advancing the charger's mobility and enhancing charging functionality. As an alternative, where this does not meet the cell chamber limitations;

Tortola teaches a charger [Fig. 1 power pack 10, col. 1 lines 51-53] comprising: a main body [Fig. 1, comprising top 12 and bottom 14] and a cell chamber [Fig. 5 the chamber containing batteries 48] disposed in the main body and means for charging the internal batteries.

Lin and Tortola are analogous portable device battery chargers that use AC and DC. At the time of the invention, it would have been obvious to one of ordinary skill in the art to add the internal battery of Tortola's charger to Lin for the benefit of having a

secondary source of power [DC] that does not require a vehicle's cigarette port or AC wall outlet to recharge portable devices. This is particularly advantageous when one is away from both vehicle cigarette ports and wall outlets, which is often the case in movie theatres, shopping malls, etc.

With respect to Claim 2, Lin teaches an electric power source plug [Fig. 1 AC plug 211] disposed on a bottom of the main body is used as the alternating current power source terminal.

With respect to Claim 3, Lin teaches a cigarette ignition plug [Fig. 1 cigarette plug 222] disposed on a rear portion of the main body is used as the direct current power source terminal.

With respect to Claim 4, Lin teaches that the cigarette ignition plug has a plurality of electrodes [Fig. 1 one positive and two negative electrodes are shown on cigarette plug 222], a connector [Fig. 1 the electrical connector connecting enclosure 1 to the cigarette adapter 222] is connected to the main body [Fig. 1 enclosure 1] and a rear cover [the housing containing the cigarette adapter 222], and the rear cover covers the cigarette ignition plug [the housing covers the insides of the plug with the exception of the end tip of the electrodes required to make electrical contact].

With respect to Claim 5, Lin teaches a cell disposed in the cell chamber is used as the cell power source terminal [Fig. 1 terminal 223 connects to the 9 volt battery 221; though Lin does not teach a battery chamber inside the main body, he does teach an external 9 volt battery 221 shown in Fig. 1 that duplicates the applicant's intended purpose exactly. Considering that 9 volt batteries are typically used on the inside of

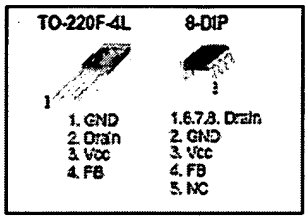
devices to provide power, it is well within the scope of Lin's invention to relocate the external 9 volt battery 221 to the inside of the charger enclosure 1 for the purposes of advancing the charger's mobility and enhancing charging functionality].

With respect to Claim 6, Lin teaches an upper cover [Fig. 1 the housing of enclosure 1 is shown with 2 detachable halves, the top one can be considered an upper cover for the chamber housed within] is disposed on an upper portion of the main body to cover the cell chamber [refer to Claim 1 and Claim 5 concerning cell chamber].

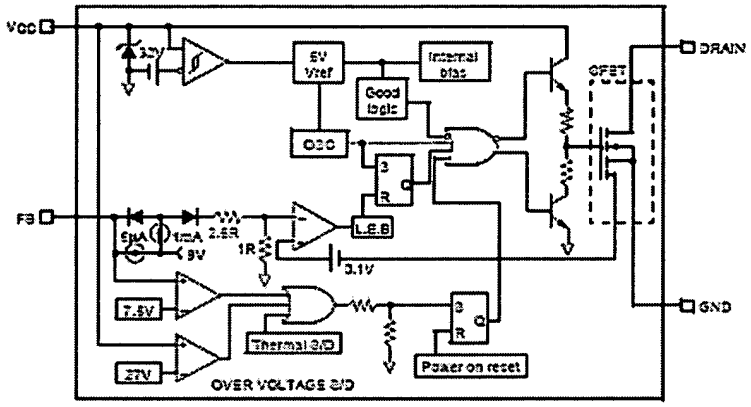
With respect to Claim 7, Lin teaches that the charging electric circuit has an AC/DC converter [Fig. 3 regulating circuitry 21 in conjunction with DC circuitry 22 converts AC to DC], a DC/DC converter [Fig. 3 DC circuitry 22 in conjunction with control circuitry 23 and DC output circuitry 24] and an electric circuit displaying a charging state [Fig. 3 DC output circuitry 24 has an LED 1 indicator that displays an output from DC output terminal 242], an input terminal of the AC/DC converter is connected to the alternating current power source terminal, [Fig. 3 terminal 211 connects to an AC supply] an output terminal of the AC/DC converter is connected to an input terminal of the DC/DC converter [Fig. 3 the connection between output of the AC/DC and input to the DC/DC converter occurs after step down transformer ER11-5], the input terminal of the DC/DC converter is connected to the direct current power source terminal [Fig. 3 via DC charging input connector 223] and the cell power source terminal [Fig. 3 both the 9-volt battery and the cigarette adapter plug are connected to charging input connector 223], and the output terminal of the DC/DC converter [Fig. 3

DC output terminal 242] is connected to an input terminal of the electric circuit displaying a charging state [connected to LED 1 via R1].

With respect to Claim 8, Lin teaches the AC/DC converter has a rectifier [Fig. 3 full bridge rectifier 1,2,3,4], an oscillator [Fig. 3, Chip U1 KA5H0165RN from Fairchild Semiconductor has an internal oscillator as shown in the Drawing 1 schematic below], a drop-away voltage transformer [Fig. 3 step down transformer ER11-5] and an output rectifier diode [Fig. 3 D 11], an input terminal of the rectifier is connected to an alternating current power source terminal [Fig. 3 connected to AC supply terminal 211], an output terminal of the rectifier [Fig. 3 the output between D1 and D2] is connected to an input terminal of the oscillator [Fig. 3 the output from D1 and D2 is connected through R10 and R11 to VCC of IC Chip U1. According to Drawing 1 below, the VCC pin connects to the oscillator input], and the oscillator is connected to an input terminal of the DC/DC converter [Fig. 3 DC charging input terminal 223] through the drop-away voltage transformer [Fig. 3 step down transformer ER11-5] and the output rectifier diode [Fig. 3 diode D11].



Internal Block Diagram



DRAWING 1: Chip U1 KA5H0165RN from Fairchild Semiconductor showing an internal oscillator connected to Vcc.

With respect to Claim 9, Lin teaches the DC/DC converter 7 has an integrated circuit IC [Fig. 3 IC Chip MC34063A], an inductor L [Fig. 3 inductor L1], a diode D1 [Fig. 3 diode D22], an output resistor R9 [Fig. 3 resistor R29], a first filter capacitor E1 [Fig. 3 capacitor C22] and a second filter capacitor E2 [Fig. 3 capacitor C23], the integrated circuit IC has a fist pin, a second pin, a third pin, a fourth pin, a fifth pin, a sixth pin, a seventh pin and an eighth pin [Fig. 3 the IC Chip U2 has 8 pins], the sixth pin [using standardized pin count as shown in U1, pin 6 is the one shown connected to C21] is connected to the direct current power source terminal [Fig. 3, the DC charging input connector 223 is shown connected through diode D23 to resistor R29, which is

connected to transistor D1, through diode D22, through capacitor C21 and into pin 6 of IC Chip U2] and the second filter capacitor [Fig. 3, also connected to filter capacitor C23], the second pin [Fig. 3, Chip U2 pin labeled I_pk] is connected to the inductor [Fig. 3 inductor L1] and the diode [Fig. 3 diode D22], the inductor is connected to the output resistor [Fig. 3 output resistor R29 connects to inductor L1], and a charging electricity output terminal [Fig. 3 DC output terminal 242] is connected to the output resistor [Fig. 3 resistor R29] and the first filter capacitor [Fig. 3 capacitor C22].

With respect to Claim 10, Lin teaches the electric circuit displaying a charging state has a triode [Fig. 3 BJT transistor D1; triodes have largely become obsolete and have been replaced by transistors, such as the BJT transistors depicted as applicant's triode in Fig. 12, V2 and V3], a twin light emitting diode [Fig. 3 LED 1 is shown as a single LED, but a twin LED could easily be used instead for purposes of brighter illumination, without any circuit modification], a diode [Fig. 3 and a current-limiting resistor [Fig. 3 resistor R1], a base of the triode is connected to the charging electricity output terminal [Fig. 3, the base of transistor D1 is connected to DC output terminal 242 through resistor R3], an emitter of the triode is connected to the diode [Fig. 3 the emitter, going through the collector, is connected to diode D22 and output resistor R29] and the output resistor, a collector of the triode is connected to the twin light emitting diode [Fig. 3 the collector of transistor D1 is connected to LED 1 through inductor L1 and resistor R1], and the twin light emitting diode is connected to the diode [Fig. 3 diode D22] and the current-limiting resistor [Fig. 3 current limiting resistor R1].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard V. Muralidar whose telephone number is 571-272-8933. The examiner can normally be reached on Monday to Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on Monday to Friday 8-5. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RVM
4/14/2006

Adolf Deneke Berhane
Primary Examiner